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# Technology Acceptance: Does the users accept the change of operating system of their smartphone?

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**Abstract:** The main objective of this study was to understand how the users accept the change of their operating system. Objectives were defined, like clarifying each of the operating systems, understand the preference of consumers' choice through a questionnaire and understand whether or not there is difficulty for users to change their operating system. Thus, a questionnaire was carried out to 204 participants aged between 16 and 72 years in the region of Lisbon. The main criteria were being over 12 years old and having a smartphone. Throughout the study, it was possible to understand that most people have a smartphone, that the satisfaction with the operating system they are currently using is quite high, that older consumers have more difficulty in changing operating system, and that product features are what most influences consumers to switch from an Android to an iOS or vice versa.

**Keywords:** operating system; smartphone; technology acceptance; user satisfaction; mobile communications.

## 1 Introduction

Currently, smartphones have seen an increase in terms of demand, and one of the main differentiating features is their operating system. Smartphones can be considered as the most used means of communication worldwide both in less and more developed countries. This type of equipment requires an operating system that can support its services, such as voice calls, text messages, camera features, etc. In early smartphones, operating systems were relatively simple since mobile phones also had more basic features. Today, the operating systems of new smartphones combine the functionalities of a personal computer with other functionalities, such as touch screen, Bluetooth, Wi-Fi, GPS, voice recognition, app stores, among others. Operating systems had to grow and adapt to new smartphone features [1].

With this great demand for smartphones, several brands started to produce this type of equipment, such as Samsung, Apple, Xiaomi, Huawei, and many more. One of the best known is Apple. Apple Computer, Inc. was founded by Steve Jobs and Stephen Wozniak in 1976 in Jobs' garage. These two colleagues aimed to change the way people saw computers, so it was at this point that they decided to build their own. In 2007, at

the MacWorld 2007 convention, the iPhone was unveiled by Steve Jobs [2]. Since then, the brand's sales have grown substantially, where in 2019 it had a gross revenue of 54.2 billion dollars, and where in the previous year of 2018, it had been the smartphone manufacturer with the highest recommendation rate [3].

The biggest competitor to iOS operating system is, without a doubt, Android. The Android operating system is present in around 1.6 billion smartphones [4]. Unlike iOS, this operating system, developed by Google, can be used on various types of smartphones, manufactured by multiple brands. Android Inc. was founded in 2003, by Andy Rubin, and purchased in 2005 by the American company Google. The main objective of this alliance was to build equipment according to their technologies and thus reduce costs, such as making Android an open-source scenario for developing software for mobile platforms [5].

The global smartphone market is expanding very quickly, and according to data from the GSMA [6] report, it is predicted that by 2025, 70% of the world's population will have a smartphone, predicting a number of 5.7 billion subscribers.

According to previous research, the most significant factor that impacts smartphone switching is price [7]. For example, Samsung's pricing strategy is to reduce prices in order to increase sales [8]. Another reason for switching smartphones is technology. Consumers are always looking for smartphones with the "State-of-the-art", and thus manufacturers of this type of equipment must always try to adapt to the latest technologies and mobile phone versions in order to attract the greatest number of customers [7].

The brand is also a very important feature when it comes to a mobile device. The characteristics of the brand can be what will lead to a future connection and satisfaction with the brand, or the other way around. Studies show that sometimes consumers are willing to pay a higher price for a product of a certain brand [9].

So, the present study intends to better analyze each of the operating systems discussed above (Android and iOS), as well as understanding through a questionnaire how the population feels satisfied with the operating system they use, if they feel satisfied with it, what features they tend to like most about their smartphone, as well as what is the main reason they believe it leads to a change from an Android smartphone to an iOS and vice versa.

## **2 Literature review**

### **2.1 Mobile Communications**

The first mobile communications networks appeared in the late seventies and consisted of analog systems that granted only voice communications. In the early nineties, these networks were changed to 2nd generation digital networks, the so-called 2G.

This new network, represented by GSM (Global System for Mobile Communications) was enhanced by a European association that promised compatible voice services in many countries through a wide range of terminals. In addition to the voice service, it also completed a short message service (SMS) which was a great success. This new system has transformed the way people communicate and work [10].

With the purpose of being able to support the evolution of the Internet, effective access to multimedia services is granted with the appearance of the UMTS (Universal Mobile Telecommunication System), better known as the 3rd generation. With this new system (3G), which began to be installed in 2002, services such as web browsing, video and audio streaming, email and file transfers began to be used efficiently.

The fourth generation, nicknamed 4G, was created with the purpose of promoting a global mobile network, fully integrated and based on IP (Internet Protocol), in order to integrate voice, video and multimedia services for users. Access to this network does not necessarily have to be done by the mobile operator's network, it can be accessed, equally, by other wireless networks [11]. This generation, also recognized as LTE (Long Term Evolution), was designed, and made available in 2010 to meet the needs of users in high-speed video and services, with a less complex network architecture and authorization for transfer data at higher speeds and designed for multimedia communications [11].

The term "smartphone" began to be used in 1997 and symbolized a new era of mobile devices. Smartphones began to be considered universal portable computers that incorporated a telephone. One of the essential features of smartphones was their ability to run software programs, which later came to be known as "applications", allowing users to perform tasks that had not previously been foreseen when the phone concept was first manufactured [12].

According to Lee [13], a smartphone is defined as a mobile phone that offers advanced capabilities, often with features similar to a PC, and that is not limited to just making voice calls.

It is currently considered that many issues are resolved through a smartphone, so the need to, for example, go to the bank to consult a statement, make transfers, make purchases via virtual means, etc., is no longer necessary. Just like innumerable professional activities can be solved through apps, with the various functions that smartphones offer [14].

## **2.2 Mobile operating systems**

An operating system is a program that manages a computer's hardware, as it provides bases for application programs and acts as an intermediary between the computer software and the computer hardware [15].

According to Tanenbaum [16], an operating system consists of a grouping of one or more programs that controls the computer resources, like processors, main memory, hard disks, printers, keyboard, mouse, monitor, network cards, and other input and output devices. Thus, operating systems are considered a piece of software, and deal with all the complexity of managing components, working with optimizations, abstracting from the user all the execution part, putting it in the background.

The main objectives of an operating system are run user programs and facilitate problem solving for them, make the computer system easy to use and efficiently use the computer system hardware. Operating systems offer services to both users and developers that make it possible to run a computer or other device without having to use low-level hardware controls as these are difficult to implement. These provide,

relatively uniform, interfaces for accessing a wide range of devices that the computer interacts with, from input/output devices such as printers or digital cameras, to wired or wireless networking and components that ensure communication between computers [17].

Operating systems are largely responsible for the rise of mobile devices, as they are now being built to manage smartphone hardware resources, from managing simpler applications to managing more complex ones, such as calculating navigation routes, recognizing objects, using smart sensors, thus making it possible to perform activities that were previously impossible, making this part of our reality today [18].

These days there are a large number of OS for smartphones that try to be the best in the world, but the only ones that manage to reach the podium and cause the greatest impact are undoubtedly the iOS system and the Android system [19].

One of the operating systems for smart mobile devices is Android, which represents a technological alternative whose appearance generated a good impression on its group of users, being today a competitor facing other operating systems recently considered as leaders.

Android Inc. was founded by Andy Rubin in 2003, which after two years, in 2005, was bought by Google. Later, the team led by Rubin developed a mobile device platform powered by the Linux kernel, which was unveiled on November 5, 2007, by the Open Handset Alliance, a commercial alliance of several companies including Google, HTC, Intel, LG and 76 other companies [20].

The main objective of this alliance was to build equipment according to their technologies that could considerably reduce time and cost, as well as improve services and provide the best features to consumers [21]. Another objective of this alliance would be to turn Android into an open-source scenario for software development for mobile platforms [5].

According to data from the Statista website, from July 2020 [4] Android is the most used operating system with a number of users that rounds the 1.6 billion. The year of 2017 was the year that Android surpassed Windows, becoming the most popular operating system. Android in October 2020 continued with the leadership position as the leader of the mobile devices OS, controlling this market with a 72.92 percent share. Together, Google Android and Apple iOS have nearly 99 percent of the global market.

One of the main reasons for this OS to be so successful is the constant search for improvement in its numerous versions, with each one offering new and more advanced features, with faster internet access. Another of Android's popularity is its strong collaboration with mobile device manufacturers [18].

The iOS abbreviation comes from the name "iPhone Operation System", developed by the well-known company Apple. This system was based on the MAC OS X operating system and designed to respond to the needs of mobile devices developed by this organization.

Apple can be considered one of the most successful companies in the world in recent years. According to the Forbes website, the company is the most valuable brand in the year of 2020, with an estimated value of 241.2 billion dollars and a revenue of 260.2 billion dollars [22].

Through the NPS (Net Promoter Score) model, studies indicated that for the smartphone market, Apple is the manufacturer with the highest NPS, with 60% in 2018, the same value that it had registered in the previous year [23].

The iOS operating system is restricted to hardware built by Apple. In this way, only Apple's own devices can successfully run the iOS operating system [24].

In January 2007, Steve Jobs introduced the iPhone during his speech at the Macworld Conference and Expo. Immediately that same year, there were soon sales of about 1.39 million units. The year with the highest number of sales between 2007 and 2018 was 2015 with 231.22 million units sold worldwide [25].

### 2.3 Technology Adoption

The development of the TAM model was due to an agreement between IBM Canada and the Massachusetts Institute of Technology, in the mid-1980s, in order to assess the market potential for the brand's new products and encourage an explanation of the determinants of computer use [26].

The TAM model was proposed by Davis [27], and intended to specifically explain the behavior of the use of IS (mainly the computer), focusing primarily on two fundamental dimensions:

1. The Perception of usefulness (PU), that is, the degree to which a person believes that the use of a certain system will improve their performance.
2. Perception of Ease of Use (PEU), relating to the degree to which a person believes that using a particular system will be effortless.

According to TAM, users first consider the functions performed by computer systems (PU), and subsequently examine the ease or difficulty in using them (PEU). The behavioral intention of use (BI), is thus, defined by the person's attitude (A) in relation to the use of the system, as well as by the conviction that the IS will enhance performance [28]. This analysis can be represented in the diagram of Figure 1 [26].

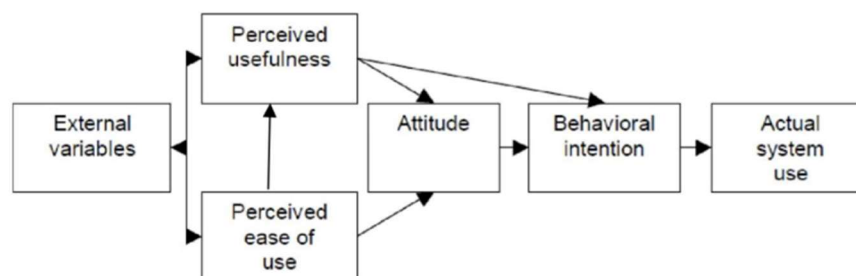


Figure 1 Technology Acceptance Model (Davis, Bagozzi, & Warshaw, 1989)

Several analyzes have concluded that this model gives a dominant role to behavioral intent, in the use of technology, compared to the perception of usefulness or the perception of ease of use. However, among these two variables, the one that best predicts the acceptance of use and technology is the perception of usefulness [29, 30].

Basically, the PEU is represented as the degree to which the person believes that the use of IS is effortless and the PU seeks to measure how much the person believes that

the use of technology will contribute to an improvement in their performance. This perception on the part of the user appears to have a positive influence on the behavioral intention to use this technology [28].

Davis [27] presented the TAM model with the intention of focusing on why users accept or reject information technology and how to improve its acceptance, thus offering a support to predict and explain acceptance.

This model was created in order to understand the specific relationship between external variables of user acceptance and the actual use of the computer, thus seeking to understand the user's behavior through knowledge of its usefulness and perceived ease of use [27].

The TAM is useful for predicting, but also for characterizing, so that researchers and others can recognize why users do not accept a particular system or technology and, consequently, implement the appropriate corrections [26].

Lee, Kozar, & Larsen [31] led a literature search on the TAM model and generally found that the TAM presented cohesive results while preserving its security in explaining the acceptance of technology by users of information systems. This research was applied to different technologies, such as text processors, email, the internet, banking systems, as well as in different situations (over time and in different cultures), with different control factors (gender, type and organizational structure) and different individuals (students and professionals), which makes us believe in its credibility [32]. The TAM model is still the most popular among researchers engaged in Acceptance and Use of Technology [33].

Nowadays, the smartphone is much more than a simple mobile phone that people use to make calls. Is a device used by different age groups that allows to be used as a work tool, for leisure, among other tasks [34].

Data from the 2018 “Markttest Telecommunications Barometer” study, showed that the smartphone penetration in Portugal continues to increase and is in the hands of 3 out of 4 mobile phone users. In the quarter of July 2018, this study counted about 6.9 million people who have a smartphone. This study also indicates that the penetration rate of smartphones is higher among males, residents of Greater Lisbon, the younger population and higher social classes [3].

According to data from the Statista website, it appears that the age group that most adopts smartphones in the United States of America, are the ages between 18 and 29 years old, and the one with the lowest values is the age group of individuals with over 65 years old [4].

One of the factors that may be connected with this difference in age groups may be social needs, which is one of the main factors for consumers' dependence on smartphones. These consist of an individual's social interaction needs. Represent the need for communication with friends, family, groups, clubs, churches and at work [35]. This need happens to smartphones because they have become much more versatile, allowing consumers to use them more in order to communicate and maintain relationships between individuals [36]. This statement can be complemented by the fact that some studies show that most people using smartphones are teenagers and young adults [34].

Another of the dependencies that can be mentioned, in addition to social needs, is the current dependence on the internet and the modernization of mobile devices, where it was found that the smartphone together with the ease of mobile connection can also cause dependency [37].

### **3 Methodology**

The methodology used was a quantitative and descriptive research. The purpose of the descriptive research is to describe or clarify characteristics of the group of participants in question and therefore a relationship is established between the questions to be asked and the object of study. When it comes to a descriptive research, as it is put into practice in this work, the researcher will conduct the interpretation and analysis of the study without interfering or manipulating the data [38].

This study was conducted with the goal of studying the user's acceptance on changing the operating system of their smartphone. In this study, is analyzed whether the operating system is a crucial factor or not in choosing a smartphone, as well as whether the users are satisfied with the OS they currently use, whether they recommend their OS to someone else, among other questions that were presented in a survey.

The survey was conducted for participants over the age of 16 who may or may not own a smartphone, and the smartphone could have as operating system an Android, iOS or other. Only participants who own a smartphone and one of the two OS under analysis (Android or iOS) were considered for the study.

The questionnaire was 204 respondents, but only 167 answers were considered valid. Of these 167 responses have ages ranging from 16 to 72 years old with various types of academic qualifications and net monthly incomes.

The questionnaires were sent via email or social media, depending on proximity to the respondents, and participants were asked to forward the questionnaire to other known contacts. The results were later analyzed using IBM SPSS 24 Statistics for statistical data processing.

The questionnaire was constructed so that in an initial phase (the first 6 questions) it would be possible to characterize the sample from a sociodemographic perspective, and in the remaining questions it would be possible to extract the participants' opinion on the theme.

The first 6 questions determine gender, age, education, net monthly income, whether they use a smartphone, and which smartphone they use. The remaining questions, based on TAM, were designed in such a way as to obtain conclusive answers with pre-defined answers on a Likert scale from 1 (Strongly disagree, Very dissatisfied, Not at all connected...) to 5 (Strongly agree, Very satisfied, Very connected).

### **4 Analysis and discussion of results**

Once the data was collected, the results obtained in the empirical study were analyzed. It was found that the respondents were those who expressed interest in participating, which is therefore a convenience sample.



The present study had 167 participants (N=167), of which 32.3% were male, 66.5% were female, and 1.2% identified themselves as other.

Regarding the age of the participants, the majority is less than 25 years old with a percentage of 35.3%, followed by participants aged between 46 and 55 years (28.1%) and with a smaller percentage, participants older than 55 years with a percentage of only 6%.

As for academic qualifications, most of the respondents have a completed bachelor's degree (44.9%), and few have a completed doctorate (0.6%). Those who have completed only high school also occupy a large percentage of the chart (32.9%).

In terms of net monthly remuneration at the end of the month, the majority of the participants who answered this question, and there were 18 people who decided not to share this information, receive a remuneration in the range between 500€ and 1000€ at the end of the month (34.9%), and with a smaller percentage are the participants who have a remuneration above 2001€ at the end of the month (11.4%).

One of the crucial questions in this questionnaire was whether or not the participant uses a smartphone, where 160 participants said yes (96%) and only 7 respondents (4%) do not use this type of device.

To these 160 participants who answered "Yes" to the question "Do you use a smartphone?", they were asked the question what was the operating system that their smartphone operated, having as options the Android OS, the iOS OS and the third option was "Other", to which 63.1% replied that they had an Android, with a percentage of 33.8% the participants who have a iOS, and only 3.1% of the participants replied that they have another type of operating system, thus putting an end to the questionnaire for them.

For the participants who chose the options "Android" or "iOS", the question was asked whether they were satisfied with their operating system, to which 44.5% of the participants answered that they were satisfied and 38.1% very satisfied. Only 10.3% of respondents are very dissatisfied with the OS of their smartphone.

To better understand which users are the most satisfied with their operating system, a comparison of question 6 of the questionnaire "If yes, what is the operating system of your smartphone?" with question 7 "Are you satisfied with the operating system of your smartphone?" was performed. With this crossing of information, it was possible to draw that the percentage of participants satisfied with their operating system is higher in the Android OS (52.5%), but the percentage of participants very satisfied with their operating system is higher in respondents using the iOS operating system (53.7%). Regarding dissatisfaction, iOS users are most dissatisfied.

With the crossing of data, it was also possible to see that iOS users feel more emotionally attached to their OS than Android users, since for iOS users the answer with the highest percentage is "Connected" with 42.6% and then "Very Connected" with 29.6%, and for Android users the most given answer was the option "Neutral" with 34.7%.

On the question "Would you recommend other people to buy smartphones with the same operating system as yours?" most of the participants, with a percentage of 50.3% of the answers, answered that they agreed when recommending their smartphone to others. As for the answer "Strongly Disagree", no one choose this option. By cross-

referencing this data with the users of the two types of operating systems under study, it was possible to extract that for Android users the most given answer was "Agree" (54.5%) and for iOS users it was "Totally agree" (44.4%).

To understand why users choose a certain smartphone, the question "Why did you choose your smartphone?" was asked, and it can be seen that price is a substantial factor when choosing a smartphone for Android users, who agreed with this option by 65.3%, unlike iOS users that only 11.1% agreed, with a higher percentage choosing the option "Disagree" with 33.3%. It was also retrieved in this question that the smartphone functions are one of the main reasons when choosing a smartphone for both users, that for iOS users' appearance is the key factor with the highest percentage of "Agree" (56.6%) and that for both users the operating system that their smartphone operates is a very important factor with Android users choosing the option "Agree" 61.9%, and iOS users choosing the option "Agree" and "Strongly Agree" more than 40% in both.

Since it was proven that the operating system is an important factor when choosing a smartphone, users were also asked whether this choice was made autonomously or under the influence of friends and family, to which the answer was mostly negative for both users. For Android users the most given answer was "Strongly disagree" with 29.7% and for iOS users the most answered was "Disagree" with 38.9%.

In order to understand what the most cherished features in the smartphones of the users are who took the survey, a question was asked for that purpose, where users could choose more than one option. Android users absolutely chose that for them the most cherished feature is "Image quality" with 100% of the users totally agreeing, while for iOS users, the most cherished feature is once again "Appearance" (68.5%). The least liked features for both users are "Color", "Touch" and "Sound quality".

Even if the brand is a more important factor when buying a smartphone, it was seen earlier that the operating system is also a very important factor, and with the question "Will I ever buy a smartphone with the same operating system as my current one again?", the answers were unanimous, and for both users, staying with the same operating system seems to be the right answer, since 52.5% of users using Android agreed to buy again a smartphone with the same OS, and 55.6% of iOS users totally agreed.

In another question, it was asked how often users think about changing operating systems. Since in the previous question, they said they would buy again a smartphone with the same OS as their current one, the willingness to change will be low, hence the most given answer to the question "How often do you consider changing operating systems?" was "Rarely", with 45.5% of answers given by Android users, and 46.3% with an answer given by iOS users.

Other question that was asked, was whether respondents believed that older consumers would find it more difficult to switch operating systems due to the new product's instructions being harder to re-learn, to which almost 54.2% of the participants said they agreed and 24.8% totally agreed. Only one person (0.7%) strongly disagreed with this matter.

When asked if "The greater the relationship with the brand of my smartphone, the less I intend to change", the participants mostly agreed with 59.2% of the answers. Relating this answer to the question "How often would you consider changing operating

systems?" it can be seen that users of both operating systems feel a strong relationship with the brand of their smartphones, so they don't want to change them often.

At the same time, the answers to the question "How often would you consider changing operating systems?" were not 100% "Strongly Disagree", because there are always some users who feel the need to change their smartphone or operating system with some frequency, so the question "Do you believe that the demand for variety has an impact on my intention to change operating systems" was asked, where the most given answer was "Neither Agree nor Disagree" with 36.6% of the answers given, but then comes right behind the option "Agree" with 30.1% of the votes.

Finally, the participants were asked what they believed to be the biggest influence on their intention to change from an iPhone to an Android smartphone (or vice-versa), to which they agreed most on the product features (66.4%), then the price (55.9%) and lastly the brand (42.8%).

Then, proceeded the Pearson's linear correlation coefficient (Pearson's R) analysis between the new variables, taken from the principal component analysis (PCA). This analysis is done when is necessary to analyze the relationship between two variables. When exists a perfect correlation, that is -1 or 1, it means that it will know the value of one variable determining exactly the value of the other. If the value is 0, it means that there is no linear relationship between the variables [39].

It can be seen in Table 1 there are variables that are correlated and significant at the 0.01 level, and variables that are correlated and significant at the 0.05 level, and also others that have a very weak correlation to the point of not being significant.

**Table 1.** Pearson Correlation for the variables under study.

Correlations								
		Features	OS	Loyalty	Influence	Change	Price	Satisfaction
Features	Pearson Correlation	1						
	Sig. (2-tailed)							
	N	150						
OS	Pearson Correlation	,309**	1					
	Sig. (2-tailed)	0,000						
	N	150	150					
Loyalty	Pearson Correlation	,173*	,563**	1				
	Sig. (2-tailed)	0,036	0,000					
	N	148	148	152				
Influence	Pearson Correlation	,367**	,202*	,307**	1			
	Sig. (2-tailed)	0,000	0,013	0,000				
	N	150	150	149	152			
Change	Pearson Correlation	,352**	0,020	0,010	0,159	1		
	Sig. (2-tailed)	0,000	0,814	0,899	0,053			
	N	148	148	152	149	152		
Price	Pearson Correlation	-0,106	-,243**	-,200*	-0,011	,191*	1	
	Sig. (2-tailed)	0,201	0,003	0,013	0,898	0,018		
	N	148	148	152	149	152	152	
Satisfaction	Pearson Correlation	0,027	0,158	,178*	-0,085	0,002	-,170*	1
	Sig. (2-tailed)	0,739	0,053	0,028	0,300	0,981	0,036	
	N	150	150	152	152	152	152	155

\*\* The correlation is significant at the 0.01 level (2-tailed).  
\* The correlation is significant at the 0.05 level (2-tailed).

When analyzing the "Price" column with the interaction of the "Satisfaction" variable, it can be seen that Pearson's correlation is negative. This means that if one variable increases, the other decreases, and vice versa. That said, the lower the price of the smartphone the higher the user satisfaction, and the higher the price of the smartphone the lower the user satisfaction. One can verify this type of correlation in the "Price" / "Features" variables because the user gives a lot of importance to the features of the cell phone, but always wants the lowest price possible. Also, in the "Price" / "OS". The correlation between "Price" / "Loyalty" is also negative, as is "Price" / "Influence". The correlation between the variable "Satisfaction" / "Influence" is also negative, which may indicate that it is not because third parties influence when choosing a smartphone or operating system that satisfaction is related.

The cell comparing the "Loyalty" and "Characteristics" variables has a Pearson correlation of 0.173. The "Influence" and "SO" variable has a correlation of 0.202. The correlation between the variable "Change" and the variables "SO", "Loyalty" and "Influence" has the following values of 0.020, 0.010 and 0.159, respectively. The variable "Price" has a correlation of 0.191 with the variable "Change". The variable "Satisfaction" with the variables "Characteristics", "SO", "Loyalty" and "Change" have the respective correlations 0.027, 0.158, 0.178 and 0.002. Thus, it can be stated that the level of association between the previous continuous variables is low.

Looking at the column of the variable "Characteristics", it has a moderate correlation with the following variables "SO", "Influence" and "Change" with Pearson's correlations of 0.309, 0.367 and 0.352. Another correlation that is considered moderate, are the variables "Influence" and "Loyalty" with a correlation of 0.307.

The variable "Loyalty" and "OS" is the only one with a value greater than 0.5, thus, according to the author [40], it can be said that this is the only high correlation. Thus, there is correlation between all the variables present in the study (positively or negatively correlated).

## 5 Conclusion

The present work had as a research question "In what way does the user accept the change of their operating system?". To try to answer this question, a study was conducted on the Android and iOS operating systems, where a questionnaire was conducted to understand which operating system the users preferred, if they were satisfied with them or, for example, if they intended to change their operating system in the future.

With the completion of the theoretical framework, it was possible to better understand both operating systems. The Android operating system is the most used operating system with several users that is around 1.6 billion, while the iOS operating system, according to the Forbes website, was the most valuable brand in the year 2020, with an estimated value of 241.2 billion dollars and revenues of 260.2 billion dollars.

A study conducted by Marktest in 2018 [3], indicated that 6.9 million people owned a smartphone, also indicating that the smartphone penetration rate was higher among males, the younger population, as well as people with a higher social class.

One of the factors for the Android operating system being the most purchased last year, is the fact that it has a strong collaboration with mobile device manufacturers, unlike iOS which operates only with its manufacturer Apple, that is, the user is more likely to like a non-iOS smartphone than an iOS one.

With the questionnaire applied to about 200 participants it was possible to draw only a few conclusions identical to those described above. The age group that took part in the study the least were participants over 55. So, one can agree with the fact that probably the younger population is more likely to own a smartphone because older consumers have had later contact with them.

Through the study, it was possible to extract that the TAM model presents at least three variables that lead a subject to accept or not the technology. According to this model, it will be the ease of use and the usefulness that will determine the intention to use, that is, if the user finds that a certain technology is not easy to use and is not useful, he will have no intention to use it.

A smartphone is already something so intrinsic to the daily life of the population that only 7 people from the sample of 167 (valid answers) answered that they did not use a smartphone in the questionnaire. Of the same 160 respondents who answered that they owned a smartphone, more than half answered that they owned a smartphone with the Android operating system. These data were already expected, because as previously mentioned, Android was the operating system with the largest number of users in 2020.

Through the application of the questionnaire, it was possible to learn that most users are satisfied with their operating system and have no intention of changing soon. This leads one to believe that the connection and trust that users have in their operating system, as well as the relationship they have with their smartphone brand, is becoming so great that they would rather stay comfortable with what they have than change.

Regarding what most influences the users when switching from an Android operating system to an iOS, or vice versa, the answer "Product Features" was the one that had the highest agreement where more than 60% of respondents said they agreed, while the answer "Brand", of the three possible answers, was the one that had a lower number of respondents to say they agreed.

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